

Amendment to the Claims:

1. (Currently Amended) A method for controlling a drive motor [(20)] of a positive displacement vacuum pump [(16)], the method ~~comprising the~~ following steps:

storing a curve [(32)] indicating a respective speed n of the drive motor [(20)] for inlet pressure values p , ~~wherein~~ the curve [(32)] ~~comprises~~ comprising:

[-] an upper range [(34)] for inlet pressure values p larger than or equal to an upper limit pressure p_1 , with a single constant upper speed value n_1 being associated with said upper range [(34)], and

[-] an alteration range [(36)] for inlet pressure values p smaller than the upper limit pressure p_1 , ~~wherein~~ in the alteration range different speed values n_v are being associated with the inlet pressure values p [-];

determining the inlet pressure value p [-];

determining the speed n associated with the determined inlet pressure value p in the curve; [(32),] and

operating the drive motor [(20)] at the determined speed n .

2. (Currently Amended) The method according to claim 1, ~~characterized in that~~ wherein the curve [(32)] comprises a lower range [(38)] for inlet pressure values p smaller than or equal to a lower limit pressure p_2 , a single constant lower speed value n_2 is being associated with the lower range [(38)], and the alteration range [(36) is] being limited to inlet pressure values p larger than the lower limit pressure p_2 .

3. (Currently Amended) A method for controlling a drive motor [(20)] of a positive displacement vacuum pump [(16)], the method comprising ~~the~~ following steps:

storing a curve $[(32)]$ indicating a respective speed n of the drive motor $[(20)]$ for inlet pressure values p , ~~wherein~~ the curve $[(32)]$ ~~comprises~~ comprising:

$[-]$ a lower range $[(38)]$ for inlet pressure values p smaller than or equal to a lower limit pressure p_2 , with a single constant lower speed value n_2 being associated with said lower range $[(38)]$,

$[-]$ an alteration range $[(36)]$ for inlet pressure values p larger than the lower limit pressure p_2 , ~~wherein~~ in the alteration range $[(36)]$ different speed values n_v are being associated with the inlet pressure values p $[,]$;

determining the inlet pressure value p $[,]$;

determining the speed n associated with the determined inlet pressure value p in the curve; $[(32),]$ and

operating the drive motor $[(20)]$ at the determined speed n .

4. (Currently Amended) The method according to ~~any one of~~ claims claim 1 $[-3]$, ~~characterized in that~~ wherein in the alteration range $[(36)]$ decreasing speeds n_v are associated with decreasing inlet pressure values p .

5. (Currently Amended) The method according to ~~any one of~~ claims claim 2 $[1-4]$, ~~characterized in that~~ wherein the upper limit value p_1 ranges between 20 mbar and 1 mbar, and the lower limit value p_2 ranges between 1.0 mbar and 0.005 mbar.

6. (Currently Amended) The method according to ~~any one of~~ claims claim 2 $[1-4]$, ~~characterized in that~~ wherein the upper constant speed value n_1 ranges between 2,200 and 1,000 rpm, and the lower constant speed value n_2 ranges between 300 and 1,300 rpm.

7. (Currently Amended) The method according to ~~any one of~~ claims claim 1 $[-6]$, ~~characterized in that~~ wherein the positive displacement vacuum

pump $[(16)]$ is a fore vacuum pump arranged upstream of a high vacuum pump $[(14)]$, and the inlet pressure p is the a suction-side pressure of the high vacuum pump $[(14)]$.

8. (Currently Amended) The method according to ~~any one of~~ claims claim 1 $[-7]$, ~~characterized in that~~ wherein the curve $[(32)]$ is saved in a characteristic diagram storage.

9. (Currently Amended) The method according to ~~any one of~~ claims claim 1 $[-8]$, ~~characterized in that~~ wherein the drive motor $[(20)]$ is an asynchronous motor.

10. (Currently Amended) A positive displacement vacuum pump $[(16)]$ comprising:

a drive motor $[(20)]$, an inlet pressure sensor $[(24)]$ and a drive motor control $[(22)]$ for controlling the a speed n of the drive motor $[(20)]$ in dependence on the inlet pressure value p determined by the inlet pressure sensor $[(24)]$,

~~wherein the drive motor control~~ $[(22)]$ ~~comprises~~ comprising a storage for storing a curve $[(32)]$ which indicates a respective speed n of the drive motor $[(20)]$ for inlet pressure values p of the inlet pressure sensor $[(24)]$, ~~wherein~~ the curve $[(32)]$ ~~comprises~~ comprising:

at least one of (a) an upper range $[(34)]$ for inlet pressure values p larger than or equal to an upper limit pressure p_1 , ~~with~~ a single constant upper speed value n_1 being associated with said upper range and (b) a lower range for the inlet pressure values p lower than or equal to a lower pressure limit p_s , a single constant lower speed value n_2 being associated with the lower range; $[(34),]$ and

$[-]$ an alteration range $[(36)]$ for inlet pressure values p smaller than the upper limit pressure p_1 or larger than the lower limit pressure p_s , ~~wherein~~ in the alteration range $[(36)]$

different speed values n_v ~~are being~~ associated with the inlet pressure values p .

11. (Currently Amended) The positive displacement vacuum pump according to claim 10, ~~characterized in that~~ wherein the drive motor control $[(22)]$ comprises a processor $[(28)]$ which has connected therewith the inlet pressure sensor $[(24)]$ and which evaluates ~~the signals of~~ from the inlet pressure sensor $[(24)]$.

12. (New) The method according to claim 3, wherein in the alteration range decreasing speeds n_v are associated with decreasing inlet pressure values p .

13. (New) The method according to claim 3, wherein the positive displacement vacuum pump is a fore vacuum pump arranged upstream of a high vacuum pump, and the inlet pressure p is a suction-side pressure of the high vacuum pump.

14. (New) The method according to claim 3, wherein the curve is saved in a characteristic diagram storage.

15. (New) The method according to claim 3, wherein the drive motor is an asynchronous motor.